CLAIMS:

The invention claimed is:

1. A method of forming a conductive contact through a dielectric, comprising:

forming a dielectric over a node location on a semiconductor substrate; the dielectric comprising an insulative material over the node location, an insulative polish stop layer over the insulative material, and an insulator layer over the insulative polish stop layer;

forming a contact opening into the insulator layer, the insulative polish stop layer and the insulative material to proximate the node location;

widening at least a portion of the contact opening with an etching chemistry that is selective to widen the contact opening within the insulative material to a degree greater than any widening of the contact opening within the insulative polish stop layer;

after the widening, depositing conductive material over the insulator layer and to within the contact opening; and

polishing the conductive material and the insulator layer to at least a portion of the insulative polish stop layer.

2. The method of claim 1 wherein the insulative material predominately comprises SiO_2.

3. The method of claim 2 wherein the insulative material comprises spin on glass.

4. The method of claim 1 wherein the insulative material predominately comprises doped SiO_2.

5. The method of claim 4 wherein the insulative material predominately comprises doped spin on glass.

6. The method of claim 4 wherein the insulative material predominately comprises BPSG.

7. The method of claim 4 wherein the insulative material comprises doped SiO_2 and undoped SiO_2.

8. The method of claim 7 wherein the insulative material consists essentially of doped SiO_2 and undoped SiO_2.

9. The method of claim 1 wherein the insulative polish stop layer comprises Si_3N_4.

10. The method of claim 9 wherein the insulative polish stop layer consists essentially of Si_3N_4.

11. The method of claim 1 wherein the insulative polish stop layer comprises undoped SiO_2, an outermost portion of the insulative material comprising doped SiO_2.

12. The method of claim 1 wherein the insulative polish stop layer comprises an insulative metal oxide.

13. The method of claim 12 wherein the metal oxide comprises at least one of tantalum oxide, aluminum oxide and hafnium oxide, including mixtures thereof.

14. The method of claim 1 wherein the insulator layer comprises SiO_2.

15. The method of claim 14 wherein the insulator layer comprises doped SiO_2.

16. The method of claim 1 wherein the insulative polish stop layer consists essentially of Si_3N_4, and wherein the insulator layer comprises SiO_2.

17. The method of claim 16 wherein the insulator layer consists essentially of doped SiO_2.

18. The method of claim 1 wherein the insulator layer comprises amorphous carbon.

19. The method of claim 1 wherein the insulative polish stop layer is formed on the insulative material, and the insulator layer is formed on the insulative polish stop layer.

20. The method of claim 19 wherein those portions of the insulator layer and the insulative material which contact the insulative polish stop layer constitute the same composition material.

21. The method of claim 19 wherein those portions of the insulator layer and the insulative material which contact the insulative polish stop layer constitute different composition materials.

22. The method of claim 1 wherein the insulative material has a thickness from about 15,000 Angstroms to about 25,000 Angstroms.

23. The method of claim 1 wherein the insulative polish stop layer has a thickness from about 500 Angstroms to about 2,000 Angstroms.

24. The method of claim 1 wherein the insulator layer has a thickness from about 1,000 Angstroms to about 3,000 Angstroms.

25. The method of claim 1 wherein,

the insulative material has a thickness from about 15,000 Angstroms to about 25,000 Angstroms;

the insulative polish stop layer has a thickness from about 500 Angstroms to about 2,000 Angstroms; and

the insulator layer and has a thickness from about 1,000 Angstroms to about 3,000 Angstroms.

26. The method of claim 1 wherein,

the insulative material has a thickness from about 15,000 Angstroms to about 25,000 Angstroms;

the insulative polish stop layer is received on the insulative material, is substantially homogeneous, and has a thickness from about 500 Angstroms to about 2,000 Angstroms; and

the insulator layer is received on the insulative polish stop layer, is substantially homogeneous, and has a thickness from about 1,000 Angstroms to about 3,000 Angstroms.

27. The method of claim 1 wherein the widening widens the contact opening within the insulator layer.

28. The method of claim 1 wherein the etching chemistry comprises an aqueous liquid.

29. The method of claim 1 wherein the conductive material comprises at least one of an elemental metal, an alloy of elemental metals, and a conductive metal compound.

30. The method of claim 1 wherein the conductive material comprises conductively doped semiconductive material.

31. The method of claim 1 wherein the conductive material fills the contact opening.

32. The method of claim 1 wherein the polishing comprises chemical mechanical polishing.

33. The method of claim 1 wherein the widening is selective to widen the contact opening within the insulative material to a degree which is at least two times greater than any widening of the contact opening within the insulative polish stop layer.

34. The method of claim 33 wherein the widening is selective to widen the contact opening within the insulative material to a degree which is at least fifty times greater than any widening of the contact opening within the insulative polish stop layer.

35. A method of forming a conductive contact through a dielectric, comprising:

forming a dielectric over a node location on a semiconductor substrate; the dielectric comprising an insulative material over the node location, an insulative polish stop layer over the insulative material, and an insulator layer over the insulative polish stop layer; the insulative material predominately comprising doped SiO_2; the insulative polish stop layer predominately comprising undoped SiO_2, Si_3N_4 or a combination thereof; the insulator layer predominately comprising doped SiO_2;

forming a contact opening into the insulator layer, the insulative polish stop layer and the insulative material to proximate the node location;

widening at least a portion of the contact opening with a liquid comprising etching chemistry that is selective to widen the contact opening within the insulative material to a degree greater than any widening of the contact opening within the insulative polish stop layer;

after the widening, depositing conductive material over the insulator layer and to within the contact opening effective to fill the contact opening; and

chemical mechanical polishing the conductive material and the insulator layer to at least a portion of the insulative polish stop layer.

36. The method of claim 35 wherein the insulative material predominately comprises doped spin on glass.

37. The method of claim 35 wherein the insulative material predominately comprises BPSG.

38. The method of claim 35 wherein the insulative material comprises doped SiO_2 and undoped SiO_2.

39. The method of claim 38 wherein the insulative material consists essentially of doped SiO_2 and undoped SiO_2.

40. The method of claim 35 wherein the insulative polish stop layer comprises Si_3N_4.

41. The method of claim 40 wherein the insulative polish stop layer consists essentially of Si_3N_4.

42. The method of claim 35 wherein the insulative polish stop layer comprises undoped SiO_2, an outermost portion of the insulative material comprising doped SiO_2.

43. The method of claim 35 wherein the insulative polish stop layer is formed on the insulative material, and the insulator layer is formed on the insulative polish stop layer.

44. The method of claim 43 wherein those portions of the insulator layer and the insulative material which contact the insulative polish stop layer constitute the same composition material.

45. The method of claim 43 wherein those portions of the insulator layer and the insulative material which contact the insulative polish stop layer constitute different composition materials.

46. The method of claim 35 wherein the insulative material has a thickness from about 15,000 Angstroms to about 25,000 Angstroms.

47. The method of claim 35 wherein the insulative polish stop layer has a thickness from about 500 Angstroms to about 2,000 Angstroms.

48. The method of claim 35 wherein the insulator layer has a thickness from about 1,000 Angstroms to about 3,000 Angstroms.

49. The method of claim 35 wherein,

the insulative material has a thickness from about 15,000 Angstroms to about 25,000 Angstroms;

the insulative polish stop layer has a thickness from about 500 Angstroms to about 2,000 Angstroms; and

the insulator layer and has a thickness from about 1,000 Angstroms to about 3,000 Angstroms.

50. The method of claim 35 wherein,

the insulative material has a thickness from about 15,000 Angstroms to about 25,000 Angstroms;

the insulative polish stop layer is received on the insulative material, is substantially homogeneous, and has a thickness from about 500 Angstroms to about 2,000 Angstroms; and

the insulator layer is received on the insulative polish stop layer, is substantially homogeneous, and has a thickness from about 1,000 Angstroms to about 3,000 Angstroms.

51. The method of claim 35 wherein the widening widens the contact opening within the insulator layer.

52. The method of claim 35 wherein the liquid comprising etching chemistry is aqueous.

53. The method of claim 35 wherein the conductive material comprises at least one of an elemental metal, an alloy of elemental metals, and a conductive metal compound.

54. The method of claim 35 wherein the conductive material comprises conductively doped semiconductive material.

55. The method of claim 35 wherein the widening is selective to widen the contact opening within the insulative material to a degree which is at least two times greater than any widening of the contact opening within he insulative polish stop layer.

56. The method of claim 35 wherein the widening is selective to widen the contact opening within the insulative material to a degree which is at least fifty greater than any widening of the contact opening within the insulative polish stop layer.

57. A method of forming a conductive contact through a dielectric, comprising:

forming a dielectric over a node location on a semiconductor substrate; the dielectric comprising an insulative material over the node location, an insulative polish stop layer over the insulative material, and an insulator layer over the insulative polish stop layer;

forming a contact opening into the insulator layer, the insulative polish stop layer and the insulative material to proximate the node location;

depositing conductive material over the insulator layer and to within the contact opening; and

polishing the conductive material and the insulator layer to at least a portion of the insulative polish stop layer.